Public Notification for Total Trihalomethane Exceedance
Department of Public Utilities
Public Water System ID# 4100050

Introduction

The City of Troy's Department of Public Utilities (DPU) conducts quarterly water sampling in accordance with New York State Department of Health regulations. Samples are collected each quarter for both Total Trihalomethane (TTHM) and Haloacetic Acids (HAA). An average of these samples for each site is used to determine compliance in New York State. Samples are collected at predetermined locations throughout the city based on service area and estimated age of the water.

According to quarterly water sampling results, the City of Troy water system exceeded the drinking water standard for TTHM in certain limited locations. The state regulation limits annual averages of TTHM's at 80.0 ug/l. The annual average of the sample location on Project Road was 81.6 ug/l (please see below chart). Although this is not alarming, as our customer you have a right to know about possible causes, what is being done to correct the problem and how to understand the rule as it is written by New York State. For more information on the location of sampling, please see attached map or go to www.troydpu.org for a more detailed map.

Possible Causes

As these are quarterly results that produce an annual average it is easy to determine that the sample sets that were elevated were in the second and third quarter of 2017. During May 2017, the City's Department of Public Utilities was completing an upgrade to a treatment system that helps reduce the byproduct TTHM. As this system was inoperable for the month, the TTHM result was elevated during that quarter.

TTHM's are formed when Chlorine reacts with organic material. In August 2017, the total organic material (TOC) sample yielded a result of 2.3 mg/l compared to the 2016 result of 1.8 mg/l. This may seem very small, but results at this level make for significant increases in TTHM sample results.

What is being done?

The system shutdown in May 2017 was required to correct a chemical storage concern. The Department of Public Utilities is not planning any maintenance of critical systems that would adversely affect water quality – although emergency shutdowns are sometimes required.

The water provided to the Project Road sample site comes from the five million gallon storage tank located on Peterson Court. As such this tank is in the planning phase of repainting, with completion anticipated in 2018. As part of the project an aeration system may be installed. Aeration has been successful at reducing TTHM's by up to 50%. TTHM's are volatile and easily released from water with the use of aeration.

The City of Troy is constantly in contact with Rensselaer County Health Department and the New York State Health Department on samples taken and results of these samples. This provides information that can be used to implement new technologies that better water quality and promote sustainability.

Location	2015 Average	2016 Average	2017 Average
Campbell Ave	60.2	52.5	76.6
Project Rd.	60.6	53.7	81.6
Congress St.	60.7	51.1	74.7
Vandenburgh Ave	58.8	63.3	78.9

What are Trihalomethanes (THM's)?

Trihalomethanes are a group of chemicals that are formed in drinking water during disinfection when chlorine reacts with naturally occurring organic material (e.g., decomposing vegetation such as tree leaves, algae or other aquatic plants) in surface water sources such as rivers and lakes. They are disinfection byproducts and include the individual chemicals chloroform, bromoform, bromodichloromethane, and chlorodibromomethane. The amount of trihalomethanes formed in drinking water during disinfection can change from day to day, depending on the temperature, the amount or organic material in the water, the amount of chlorine added, age of water, and a variety of other factors.

Disinfection of drinking water by chlorination is beneficial to public health. Drinking water is disinfected by public water suppliers to kill bacteria and viruses that could cause serious illnesses, and chlorine is the most commonly used disinfectant in New York State. All public water systems that use chlorine as a disinfectant contain trihalomethanes to some degree.

Some studies suggest that people who drank water containing trihalomethanes for long periods of time (e.g., 20-30 years) have an increased risk of certain health effects. These include an increased risk for cancer and low birth weights, miscarriages and birth defects. The methods used by these studies could not rule out other factors that could have resulted in the observed increased risks. In addition, other similar studies do not show an increased risk for the health effects. Therefore, the evidence from these studies is not strong enough to conclude that trihalomethanes were a major factor contributing to the observed increased risks for these health effects. Studies of laboratory animals show that some trihalomethanes can cause cancer and adverse reproductive and developmental effects, but that exposures much higher than exposures that could result through normal use of water. The United States Environmental Protection Agency reviewed the information from the human and animal studies and concluded that while there is no causal link between disinfection byproducts (including trihalomethanes) and human health effect, the balance of the information warranted stronger regulations that limit the amount of trihalomethanes in drinking water, while still allowing for adequate disinfection. The risks for adverse health effects from trihalomethanes in drinking water are small compared to the risks for illness from drinking inadequately disinfected water.

Conclusion

Although an exceedance to the regulation occurred, it was brief, limited and the City is taking measures to update procedures and complete projects that will limit the exceedance from occurring in the future.

If you have any questions regarding the exceedance please contact the Department of Public Utilities at (518) 237-0319.

City of Troy

High Service Area